ARMY MEDICINE
Serving To Heal...Honored To Serve

Fort Irwin

Food Handler Class

Environmental Health
BLDG 172
(760) 380-3235

Requirements for Temporary Food Establishments

- A *Temporary Food Establishment* operates for a period of no more than 14 consecutive days in conjunction with a single event or celebration. An organizational cookout, chapel suppers, pot luck & other similar events are NOT considered temporary food establishments. (Unless there is being money changed for services)

- **TB MED 530**/NAVMED P-5010-1/AFMAN 48-147_IP, Tri-Service Food Code, specifies requirements for vendor application to operate a food establishment, employee training, and safe food handling practices.

  - Submit an application to operate to the Preventive Medicine office at least 30 days prior to the scheduled event or opening of the operation.
  - Pass a pre-operational inspection conducted by Preventive Medicine prior to serving customers. (For Special Events and AAFES contracts Only)
  - Food operation person in charge must possess a valid Food Protection Manager certification. (When using **Potentially Hazardous Food** (PHF))
  - When using Potentially Hazardous Food, person in charge must remain on site at all times when the food operation is open for business. (Must have a valid Food Protection Manager certification)
  - Food service workers must be trained to perform prescribed duties in a safe manner and in accordance with prescribed sanitation and food safety requirements.

Purpose and Objective

- **Purpose –** This training is designed to familiarize family readiness groups and Non-profit organization operating a temporary food establishment with the basic principles of food safety that must be applied when conducting food operations on military installations.
- **Objective –** The objective for adhering to established food safety principles is to prevent the occurrence of foodborne illness.
- **Scope of Training –**
  - Understand factors that contribute to foodborne illness.
  - Understand controls that will minimize the risk of foodborne illness.

Training Outline

- Foodborne Illness
- Food Safety Hazards
- Biological Hazards and the Nature of Bacteria
- Key Terms
- Foodborne Illness Risk Factors
- Food Protection During Storage
- Layers of Protection
- Personal Hygiene & Work Habits
- Proper Cleaning & Sanitizing
- Time & Temperature Controls
- Maintaining Area Sanitation
- Summary of Requirements

Foodborne Illness

- Just because you don't hear about it often, doesn't meant it doesn't happen… Only a small percentage of actual foodborne illness cases ever get reported-
  - An estimated 76 million people in the US get sick each year from food.
  - There are about 325,000 hospitalizations and 5000 deaths each year because of diseases transmitted through food.
  - Foodborne illness outbreaks do occur on military installations – 1 incident in 2012 resulted in over 100 soldiers getting sick.
- Personnel who prepare and handle food play a key role in the prevention of foodborne illnesses by –
  - Adhering to the prescribed food safety measures; and
  - Maintaining sanitary controls within food operations.

Food Safety Hazards

- Harmful substances that present a food safety hazard can be Chemical, Physical, or Biological in nature and may result in injury or illness when ingested.
  - Chemical: Detergents, sanitizing agents, pesticides, fuel, etc…
  - Physical: bone fragments, glass, toothpicks, etc…
  - Biological: bacteria, viruses, parasites, yeast, and mold

Key Terms

- A **foodborne illness outbreak** is defined as 2 or more cases of a similar illness resulting from the ingestion of a common food. Ice and beverages are included as a “food”

- **Contaminated –** The presence of harmful substances *(physical, chemical, or biological)* in or on food.
- **Clean –** Clean to sight and touch means there is no visible debris, encrusted food, or greasy feeling.
- **Sanitize –** Sanitizing is a process of reducing the total number of micro-organisms (“germs”) on a surface to safe levels. *This is NOT the same as “sterilization,” which is a process used in hospitals to kill (remove) all micro-organisms that are on a surface.*
- **RTE** – Ready to Eat. Examples of RTE food include deli meats and cheeses, breads and rolls, salads, and fruits which will be eaten raw.

Key Terms (Continued)

- **Cross-contamination –** The transfer of a harmful substance to food through direct or indirect contact— Spilled chemicals or detergents on food packages or surfaces where food comes into direct contact, such as plates, silverware, and food prep tables.
- Using unsanitized equipment or utensils to prepare, store, or serve food.
- Bare-hand contact with foods that are ready-to-eat (RTE) such as fresh fruits, sandwiches, salad vegetables, and deli meats & cheese.
  - Bacteria from raw foods transferred to foods that are ready-to-eat. *For example—* Blood from raw meat dripping onto RTE foods stored on a lower shelf in the refrigerator.
  - Cutting boards and knives used to prepare raw meat are not cleaned and sanitized and are then used to prepare RTE foods.

Key Terms (Continued)

- **Potentially Hazardous Food (PHF)(Time/Temperature Control for Safety Food) –** A food that requires time or temperature control for safety to limit the growth of harmful micro-organisms or the formation of toxins. *Examples include but are not limited to:* Raw or heat-treated (cooked) animal food -- *meat, poultry, seafood, dairy products*
- Heat-treated plant food -- *rice, pasta, baked potato, fried onions, cooked apples*
- Cut plant foods -- *cut tomatoes, cut leafy greens (spinach/salad), cut melons, chopped garlic in oil*
- Raw seed sprouts
- Cream pies
- Gravies

Foodborne Illness Risk Factors

- There are 5 major risk factors related to employee behaviors and food preparation practices that contribute to foodborne illness:
  - Food from unsafe sources-
    - Food must be obtained from sanitary sources that conform to local, state, and federal statutes and regulations.
    - Food prepared in private homes are NOT authorized for sale or service at temporary food establishments. All PHFs must be prepared onsite
  - Inadequate cooking- food must be cooked to prescribed temperatures in order to kill and residual bacteria, viruses, or parasites that might be in or on the food
  - Improper holding temperatures- PHFs must be held at proper cold or hot holding temperatures to prevent the growth of bacteria
  - Contaminated equipment- food contact surfaces must be cleaned and sanitized to prevent cross contamination of food
  - Poor personal hygiene- food employees must adhere to standards of hygiene to prevent contamination of food contact surfaces and food.

Food Protected During Storage

- Do NOT store boxes or containers of food directly on the floor or ground.
  - Food should be at least 6 inches off the floor to prevent contamination or pest access.
- Protect from contamination when stored in refrigerators/freezers and ice chests-
  - All food must be wrapped or held in a covered container
  - Food packaging/containers should be closed/covered so that there is no exposed food.
  - Food containers or packaging must be impermeable to protect from melting ice when stored in ice chests
  - Storage units must be kept clean; free of residual food debris.
  - Ice used to keep foods cold may NOT be used for consumption
- Cover food when held in hot or cold holding during serving periods
- Always examine food for signs of contamination or spoilage before use.

Layers of Protection

- Applying multiple levels of control called the Layers of Protection is the underlying principle for reducing the risk of foodborne illness from biological hazards.
  - Good personal hygiene and work habits represent the first layer of protection to prevent transferring biological contaminants to food and surfaces that generally come into contact with food
  - Proper cleaning and sanitizing is the second layer of control that prevents cross-contamination of food by removing harmful agents from surfaces
  - Time and temperature controls are employed to prevent the growth of harmful microorganisms that may already exist in the food

Personal Hygiene and Work Habits

- People are natural carries of bacteria-
  - Staph bacteria is found on skin and hair, regardless of how often you bathe
  - Bacteria such as E.-coli are found in our intestines.
- People can also carry harmful viruses that are readily transmitted through food or contact surfaces that are touched by others
  - Norovirus is a primary example; it can live on surfaces such as door handles, dishes, chairs etc. for several days
  - Infection occurs when contaminated food is ingested or contaminated hands come into contact with mucous membranes
- Proper and frequent hand washing and proper use of disposable gloves can reduce the risk of transmission

When to Wash Hands

- Before beginning work
- After using toilet facilities
- After smoking, eating, or taking a break
- Before putting on disposable gloves and between glove changes
- Before handling cleaned and sanitized equipment and utensils
- After every chance of contamination
- Before conducting any task involving food handling

Hand Washing Sink

- A dedicated hand washing sink must be provided at the food concession for food employee use only
  - Sinks used for washing food equipment/utensils may NOT be used for hand washing.
- Hand washing sinks located near the latrines may NOT be substituted as the designated food employee hand washing sink.
- Use of sanitizing hand gels is NOT authorized as a substitute for proper hand washing.

Hand Washing Standards

- Use hot water when available
- Hand washing sinks must be supplied with soap and disposable paper towels at all times
  - Hands must be dried completely after washing
- A trash receptacle must be supplied at every hand washing sink
- Requirements-
  - Lather all exposed skin up to mid-forearm
  - Lather/scrub for a minimum of 20 seconds
  - Rinse and dry
- Use of disposable gloves does NOT exempt food employees from washing their hands

Health Requirements

- Disclosure by Worker to the supervisor—
  - Diarrhea, Vomiting, Fever **--** *personnel are* ***restricted*** *from performing* ***any tasks*** *associated with the food concession.*
  - Individuals with diarrhea must be cleared by a medical practitioner before they will be authorized to work at the food concession.

- At the beginning of each work shift, the Supervisor must inspect employees for signs of illness or injury—
  - Frequent coughing or sneezing;
  - Cuts or unhealed burns on hands and forearm;
  - Infected wounds (oozing boils, pimples, sores).
- **The Supervisor will—**
  - Limit workers with persistent cough/sneezing or infected wounds to non-food or equipment handling duties *(trash management, cash register).*
  - Ensure all wounds/burns are covered with impermeable, tight-fitting bandage **and** disposable gloves are worn if wound is on hands.
  - Use workers without symptoms/injuries to perform: *food preparation, equipment & utensil washing & sanitizing, and handling clean dishware or disposable eating utensils.*

Uniform/Clothing Standards

- Outer clothing must be clean.
  - Free of visible soil, stains, debris/particulates;
  - Free of fuel or other chemical residues;
  - Wearing an apron is recommended & can readily be exchanged when it becomes soiled.

- Adequate hair restraints must be worn by all personnel preparing or handling food.
  - Hairnet – Beard-net (snood) and arm-net/sleeve to effectively cover hair on face or exposed arms.
  - Paper/disposable hat or clean cap may be worn instead of hairnet—
    - Individuals with long hair must pin or tie loose hair not contained by the hat/cap.
    - All males must wear a hat even if head is clean shaven – hats prevent perspiration from dripping onto surfaces/food.

- Personnel preparing food may not wear jewelry on hands or wrist (except)—
  - Plain/smooth wedding band

Hygiene Standards

- Fingernails
  - Neatly trimmed & smooth;
  - No false nails, polish, or nail jewelry/ornaments – *disposable gloves must be worn if present.*
- No eating or drinking in food preparation or serving areas.
  - Exception: Water in a closed container with straw.
  - Use only designated break areas away from food or utensil cleaning.
- When disposable gloves are worn, change often and between tasks—
  - Between handling soiled and cleaned/sanitized equipment & utensils;
  - After handling trash;
  - After wiping tables/counters;
  - Before refilling condiment , napkin, and eating utensil dispensers;
  - Before handling money;
  - When gloves become torn.
  - Wash your hands between each glove change!

Proper Cleaning and Sanitizing

- There are many tasks that require application of proper cleaning and sanitizing procedures:
  - Washing pot/pan, equipment, and utensil used for food;
  - Wiping down tables and serving counters;
  - Cleaning dispensers and condiment containers.

- Food employees must adhere to proper procedures for—
  - Preparing and managing sanitizing solutions;
  - Managing wiping cloths;
  - Using a 3-compartment sink configuration for washing food equipment & utensils;
  - Handling cleaned and sanitized equipment & utensils.
  - When using a three-compartment sink, utensil/kitchenware’s are to be immersed for a minimum of – 30 seconds if using a chemical sanitizer or bleach.

Methods for Sanitizing

- Hot water is the preferred method for sanitizing equipment and utensils when using a 3-compartment sink
- Chemicals such as bleach are generally used for all other sanitizing activities
- Sanitizing chemicals come in a concentrated formula that must be diluted in a water solution to a prescribed concentration.
- Food employees must-
  - Prepare fresh sanitizing solutions daily and as often as necessary to maintain proper concentration and to keep the solution free of visible debris when in use
  - Verify the minimum required concentration was achieved and the maximum concentration was not exceeded each time a solution is prepared
  - Monitor concentration throughout the day or period of use

When Sanitizing Solutions are Used

- Use only sanitizing agents approved for food service
  - Chlorine bleach or quaternary ammonia
- Prepare according to manufacturer's instruction and as specified for your food operation
- The concentration of a solution is dissipated by time, heat, contamination and soapy water and may need fresh preparation throughout the day
- Do NOT mix different sanitizing agents in the same solution
- Verify concentrations when prepared and throughout the day using appropriate test kit or test paper
  - Concentration must meet minimum standard
  - Concentration must not exceed maximum standard
  - Prepare new solution when visibly soiled or concentration falls below minimum requirement

Chlorine Sanitizing Solution Preparation

- Use only plain, liquid-type, household bleach.
  - *Scented bleaches are not allowed for food operations.*

- Minimum concentration must be 100 parts per million (ppm).
- Max concentration cannot exceed 200 ppm.
- Large volume preparation for equipment & utensil washing in a 3-compartment sink—
  - Add 2 tablespoons (1 ounce) bleach for every 4 gallons of water.

- Small volume preparation for spray bottles to apply directly onto surfaces such as food prep tables & serving counters— Prepare using a 1-gallon container;
  - Add ½ tablespoon bleach to 1 gallon of water;
  - Shake well, verify concentration, then fill individual spray bottles.
  - Prepare fresh daily.

Cleaning Operations

- All surfaces that come into contact with food or the patron's mouth must be cleaned, sanitized, and protected from recontamination.
  - Disposable plates & eating utensils recommended for temporary food operations.
  - Disposables must be protected from contamination.
  - Store cleaning supplies & equipment in designated areas away from food, cooking utensils, and single-use items (napkins, eating utensils, plates).
  - Reduce the risk of cross-contamination by having enough utensils and sufficient "clean" areas to prepare and manage food.

- Use a 3-compartment sink or similar field expedient sink configuration for washing and sanitizing reusable pots/pans/trays & utensils.
  - 3 large buckets may be used as an improvised 3-compartment sink.
  - Large items used to prepare/cook food that cannot be cleaned or sanitized using the sink must be cleaned in-place using a procedure approved by Preventive Medicine.

Using a 3-Compartment Sink

- Scrape excess food from items;
- Pre-soak if necessary;
- Wash in hot, clean, soapy water (110-120$_{o}$F);
  - Frequently change water when food debris begins to accumulate.
- Rinse in hot, clean, clear water (120-140$_{o}$F);
  - Change when soap suds accumulate or greasy film develops on surface of water.
- Sanitize in clear water—
  - For hot water (171$_{o}$F), completely immerse for 30 seconds.
  - For chemical sanitizer (water should be between 75-110$_{o}$F), completely immerse for 15 seconds at prescribed sanitizer concentration.
- Air dry
  - Use clean drain board, table, or rack.

General Requirements and Restrictions

- Sponges may **NOT** be used for cleaning food service equipment or utensils, food prep tables, condiment containers, or napkin & utensil dispensers.
- Wiping cloths—
  - Laundered daily; do NOT use soiled cloths from previous day.
  - Segregate cloths that are used for food contact surfaces *(food prep tables, serving counters, condiment dispensers)* from those used on non-food contact surfaces *(ice chests, refrigerators, patron tables).*
  - Rinse frequently and store in a soapy or clear water solution containing chlorine to prevent the growth of harmful bacteria when not in use.
    - Soap or rinse solutions must maintain a trace residual of chlorine (or other sanitizing agent) at all times;
    - Prepare fresh solution daily and when visibly soiled or sanitizer residual is zero (0).

- Sinks used for food preparation, pot/pan/utensil washing, and hand washing may **NOT** be used as a custodial sink for wiping cloth/sponge cleaning or disposal of soiled solutions.

Time and Temperature Controls

- One of the other critical factors in controlling bacteria in food is controlling temperature. *Examples of temperature effect on growth—*
  - Ambient Temperatures:
    - At 90°F the number of bacteria on food will double every ½-hour;
    - PHFs that are held outside of safe temperatures can result in over 4 billion bacterial cells in only 4 hours.
    - Illness can occur after ingesting anywhere between a couple hundred to a couple thousand bacterial cells.
  - Refrigeration Temperatures: At 26°F the number of bacteria double every 60 hours.

- **Bottom Line –** Keep potentially hazardous foods at safe temperatures
  - Chilled at 41°F or below
  - If cooked, hold hot at 135°F or above.

Thermometer Requirements

- Bi-metallic stem-type or digital food thermometer required for spot checking internal food temperature.
  - Must be calibrated daily to ensure accuracy.
  - Used to verify hot & cold holding and cooking.
  - Sanitize between foods & prior to each use.

- Refrigerator, freezer, & ice chest must have an equipment (indicating) thermometer.
  - Positioned inside at warmest part of unit
  - Glass thermometers are prohibited

Thermometer Calibration Methods

Ice Point Method

►Fill an insulated cup with crushed ice and water.

►The cup must have enough crushed ice to provide an environment of 32°F, so you may need to pack more ice into the cup during the process.

► When the mixture of the water has stabilized in about four or five minutes, insert the thermometer to be calibrated to the appropriate immersion depth.

►Be sure to hold the stem of the instrument away from the bottom and sides of the container (preferably one inch) to avoid error.

► If your thermometer is not accurate within +/- 2°F of 32°F., adjust the thermometer accordingly. The ice point method permits calibration to within 0.1°F.

Thermometer Calibration Methods Cont.

Boiling Point Method

► Place water in a container and heat.

► After the water in the container has reached a complete “rolling” boil, insert the instrument to the appropriate immersion depth.

► Be sure there is at least a two-inch clearance between the stem or sensing element and the bottom and sides of the container.

► If your thermometer is not accurate within +/- 2°F of 212°F, adjust thermometer accordingly. The boiling point method permits calibration to within 1.0°F.

Temperature Controlled Processes

- **Thawing Frozen Foods**—
  - Do NOT thaw at room temperature!
  - Thaw in a refrigerator or ice chest that maintains foods cold at 41$_{o}$F or below; or
  - Thaw as part of cooking process *(e.g., frozen hamburgers on a grill).*

- **Cold holding** potentially hazardous foods during storage, transport, & service.
- **Hot holding** potentially hazardous foods after cooking and during transport & service.
- **Cooking**—
  - Destroys living bacterial cells.
  - Does NOT destroy bacterial toxins or spores.

- **Cooling** leftover hot foods.
  - Leftovers are prohibited in temporary food operations!
  - Discard all unconsumed hot & cold food prepared for service each day.

Cooking Temperatures

- Prescribed standards are based on targeted bacteria commonly found on specific foods.
- A calibrated Food Thermometer must be used to verify proper cooking temperature was achieved.
  - Measure at thickest part of food.

Cooking Temperatures

Food	
Poultry & poultry products *(chicken/ turkey sausage)* Stuffed meats Stuffed vegetables containing meat	165°F
Pork & port products *(sausage)* Ground beef Fish Bulk-prepared scrambled eggs	155°F
Whole muscle beef *(roast, steak, beef strips)* Lamb Veal Made-to-order eggs	145°F
Cooked plant food (vegetables & fruits) that do not contain meat, poultry, fish, or eggs	135°F

Maintaining Area Sanitation

- **Pests are readily controlled by maintaining the food operation area in a sanitary status.**
  - Immediately clean up spilled food/liquids around food prep & serving area and around the trash cans.
  - Wipe serving counters & customer tables to prevent food debris from accumulating.
  - Surfaces where food comes into direct contact, such as plates, silverware, and food prep tables carries bacteria on its body from human and animal waste.

- **Manage trash generated from the operation—**
  - Use plastic liners in all waste receptacles and do NOT reuse liners;
  - Cover garbage containers when not in use;
  - Empty garbage containers when 2/3 full and immediately take to the dumpster;
  - Trash bags must be tightly sealed (tied) before placement in dumpster;
  - Close dumpster doors;
  - Clean trash receptacles (and lids) with soapy water at the end of each day.

- **Food concessions operating in an enclosed structure—**
  - Must have screens on all windows to prevent entry of flying insects;
  - Must keep doors closed when not in use.

- Application of pesticides (e.g., Raid or insect foggers) is NOT authorized.

Summary of Requirements

- Food from approved sources protected when stored
- Required equipment & supplies on hand
  - Refrigerator/freezer/ice chests
  - Chaffing dishes or other equipment to keep hot foods hot
  - Calibrated thermometers
  - Disposable gloves
  - Hand wash station with soap & paper towels
  - Hair restraints
  - Clean clothing (and plastic apron)
  - Extra utensils & food prep work tables
  - Dishwashing setup (3-sink)
  - Sanitizing solution
  - Trash receptacles & trash bags
- Good personal hygiene & work habits
- Proper cleaning & sanitizing
- Time & temperature control of potentially hazardous foods
- Maintain area sanitation

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QUESTIONS?

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